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ABSTRACT

The goal of Phase I of an Association of Vocational Education Administrators/Cornell Institute for Occupational Education study was to identify a set of social outcomes of occupational education. To identify them, project staff interviewed new, continuing, and former students of occupational education about the benefits of their occupational courses. Others invovled in occupational education--parents, teachers, and directors--also identified changes they had observed in occupational students. The research resulted in hypotheses about improvement in students' attitudes toward school, self-confidence, ability to handle stress, appreciation of evaluation, ability to form cooperative relationships, awareness of the effect of their behavior on others, and knowledge for making career decisions. A review of research on attitudinal measurement and outcomes of occupational education was conducted simultaneously. Staff identified instruments and item formats for use in selecting or developing measures for Phase II. The review also guided interviewing of students by suggesting variables or experiences to probe. A research plan for Phase II was outlined emphasizing survey and interview methods. Specific recommendations were made to go forward with instrument development, site selection, and on-site pilot testing. (Appendixes include Career Commentary, Volume XIII; interview cue sheets; and list of relevant instruments identified in the literature review.) (YLB)

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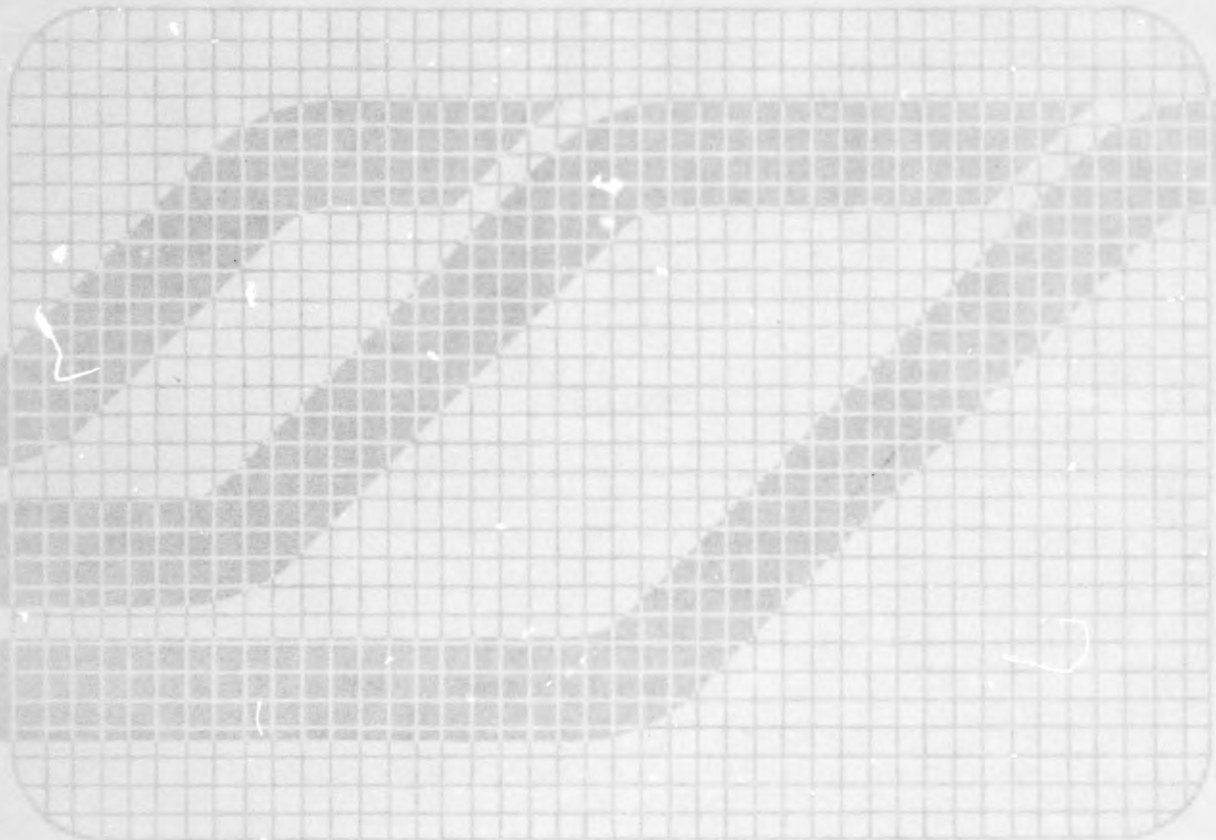

Outcomes of Occupational Education

Phase I Report

Report 80–5

CE 028 379

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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* * * * *

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INTRODUCTION

This report reviews the first phase of the AVEA/CIOE project on outcomes of occupational education. The project centers on outcomes that are mainly affective or attitudinal. Such non-technical, non-academic outcomes are worth studying because positive attitudes can foster academic growth, improve individuals' enjoyment of life, and increase individuals' contribution to society at large (Melaragno, 1976). A brief history of this study will put it in context.

At the 1977 business meeting of the Association of Vocational Education Administrators (AVEA), a resolution was passed asking for a study of the impact of secondary-level occupational education on the personal and career development of students. The president of AVEA held several planning meetings which resulted in the writing and revision of a research proposal by the Cornell Institute for Occupational Education (CIOE). At the May, 1978, meeting of AVEA a resolution was passed endorsing the intent of the study, allocating seed money for the research, and directing the Executive Committee to try to secure VEA funds to support the project's continuation. CIOE wrote a proposal to the New York State Education Department (SED) for funding of Phase I, and the research was funded starting in February, 1979.

This study is to take place in three phases. Phase I, reported here, had the main objective of identifying probable social or other non-technical outcomes of occupational education. In research terms, Phase I was devoted to <u>generating</u> hypotheses about outcomes. This report summarizes the activities and findings of that Phase and makes recommendations for continuation. Phase II has the goal of developing measures of the outcomes and pilot testing them in a limited sample of sites. Pending SED approval, Phase III will be the operational gathering of data in a statistical sample of sites statewide.

PROJECT ACTIVITIES

The activities of this project have focused on the following four broad areas:

- Formation of a project Steering Committee consisting of seven members of AVEA (Association of Vocational Education Administrators) from New York State.

- Development of a two-stage (discovery and verification) research strategy to discover from students, graduates, and parents how they describe the outcomes or benefits of occupational education.

- Review of literature related to affective or attitudinal outcomes of occupational education.

- Identification and evaluation of various forms of attitudinal measures which could be used to assess affective and non-cognitive outcomes of occupational education.

The AVEA/CIOE project staff articulated this study with other CIOE research and development activities sponsored by the State Education Department (SED). This was especially true with respect to the Instructional Support System in Occupational Educaton (ISSOE) Student Guidance and Individual Planning project, ISSOE Reporting System project, and the Sex-role Stereotyping project. Project articulation involved not only similar project staff working on two or occasionally all three projects, but also joint presentations being made by project staff at regional and statewide meetings.

A presentation by AVEA/CIOE research staff was made at the New York State Occupational Education Administrators' Conference (26-27 October 1979), and Career Commentary, Vol. XIII (Appendix A), was devoted to the study. Finally, frequent meetings were held with staff at the SED and with appropriate AVEA personnel to discuss ongoing and future activities of the project. These meetings began when the project proposal was being drafted and continued during the year.

The long-range goal of this project is to identify and test the existence of outcomes from occupational education other than those directly related to the development of technical skills. Phase I was designed to help the researchers find a range of these outcomes as seen by the major participants. The research has been productive in this regard: a range of probable outcomes has been identified which are valued by students, teachers, and administrators. In addition, project staff has become acquainted with several occupational education facilities and their administrators, together with some of the pertinent roles and attitudes of those administrators. With the guidance of the AVEA Steering Committee, project staff now has a set of hypotheses to focus on and can move toward identifying types of data that will be needed to test the hypotheses.

This phase of the study was designed as a "pre-pilot" for generating substantive hypotheses. It was not for testing statistical hypotheses. The development of adequate measures first required observing, questioning, and listening to a cross-section of the population under study. What follows is a description of that process and its results.

AVEA/CIOE Project Steering Committee

Mr. John McCormick, President of AVEA, selected six other AVEA members to serve with him as the AVEA/CIOE Project Steering Committee. These directors were selected in part because they are based in the central area of the state where it is practical to attend joint meetings. They were also selected because of their interest in the study and their previous experience with AVEA and occupational education.

Data Collection

The value of this research depends heavily on whether it reflects the characteristics of the setting and population under study, as well as whether it takes into account outcomes which are widely believed to be important. Original data thus needed to be collected from the present target population, so that this phase of the study would reflect current secondary occupational education in New York State.

The data collection and literature review (p. 12) have two purposes: to identify probable outcomes of occupational education and to aid in identifying or developing instruments for measuring those outcomes. This approach, as opposed to an a priori notion of what and how to measure, is widely used in both behavioral and attitudinal research (Fitts, 1965; Sieber, 1973; Selltiz, Wrightsman & Cook, 1976; Matsui and Ikeda, 1976; Pelto and Pelto, 1978).

In order to explore the possible beneficial outcomes of occupational education, several client groups were questioned in the spring and fall of 1979. The particular populations surveyed, their responses, and the implications of their responses are described below.

Program Directors

Forty-nine directors of occupational education programs were surveyed by mail. They were asked to list the three most beneficial non-technical outcomes of occupational education that they perceived. Synonymous or related responses were grouped in tabulating the data, which are given in Figure 1.

From this survey it appears that directors of occupational education find the most beneficial outcomes of occupational education to be the improvement of self-concept, self-worth, and self-confidence; growth in positive attitudes toward work, tools, and equipment; increase in knowledge of the world-of-work and career education; and a sensitivity to, and respect for, the needs and interests of others.

Figure 1

Benefits of Occupational Education as Identified by Directors of Occupational Education

		N	%
1.	Sense of self-confidence, self-respect, success experiences, improved self-concept, sense of self-worth	35	71
2.	Good work attitudes, good work habits; respect for tools and equipment; pride in a job well done	32	65
3.	Career education, knowledge of world of work; career exploration, a chance to identify interests/skills; assistance in career life direction, career planning options	19	39
4.	Respect for others, ability to get along with others, socialization skills	17	35
5.	Development of useful life skills, problem solving ability, planning and decision making ability, ability to set goals and meet deadlines	8	16
6.	A sense of responsibility; persistence	8	16
7.	Basic skills in reading, writing, and arithmetic; communication skills	5	10
8.	Motivation to remain in school; assistance in attaining a high school diploma; general educational relevance	4	8
9.	How to apply for/get a job	4	8
10.	Youth leadership skills	4	8
11.	An in-depth relationship with peers and a teacher who cares	2	4
12.	Development of mechanical aptitudes	1	2
13.	Preparation for post secondary training	1	2
14.	Work experience in a life like setting	1	2
15.	Ability to learn on one's own	1	2

Teachers of Secondary Occupational Education

The opinions of 35 teachers of occupational education were assessed by asking them to list the benefits of occupational education. After each teacher made a list of the most important benefits, the individual lists were combined into a group list and the benefits were ranked (see Figure 2).

From this survey it appears that teachers of occupational education perceive that the greatest benefits from occupational education, apart from technical skills, relate to improved attitudes toward work, improved attitudes toward self, increased cooperation with colleagues, improved communication skills, and enhanced feelings of accomplishment.

Figure 2
Benefits of Occupational Education as Identified
and Ranked by Teachers of Occupational Education

1. Good attitudes toward work
2. Improved sense of self-esteem
3. Cooperation with others
4. Improved communication skills
5. Job readiness
6. Feeling of accomplishment
7. Increased capacity for self-improvement
8. Respect for tools and equipment
9. Consciousness of personal and group safety
10. Ability to make career decisions
11. Awareness of social responsibilities
12. Knowledge of personal capabilities and limitations
13. Knowledge of how to use time wisely
14. Honesty

Currently Enrolled Students

One hundred and twenty-two students currently enrolled in programs of occupational education were interviewed in groups of four to ten by CIOE research staff. Sixty of these students were males and sixty-two females. In addition, approximately half were first-year (N = 62) and half were second-year students (N = 60).

Students were invited to participate by their administrators at the following schools:

- Broome-Delaware-Tioga BOCES
- Cortland-Madison BOCES
- Monroe County-Fairport BOCES
- Oswego BOCES
- Schuyler-Chemung-Tioga BOCES
- Syracuse Vocational Education Center

A list of questions in the form of a cue sheet (Appendix B) was used as a guide by the interviewers. Four CIOE researchers, one female and three males, conducted these interviews. The sessions were approximately forty minutes long and most were tape-recorded. Written notes were later made from these tapes, providing a summary for each interview at each site. Students from thirty-six different occupational training programs were interviewed. The respondents were mature, frank, and at ease speaking with unfamiliar adults. They liked their programs in occupational education and felt that the programs were both fun and a privilege to attend. Students indicated that, in addition to learning job skills, they were learning how to get along with people and how to be responsible. Often they talked about increased self-confidence.

Program Graduates

Thirteen graduates of programs in occupational education (five males eight females) were also interviewed. Two were interviewed at the occupational education site; the remaining eleven were interviewed by telephone. The interview cue sheet is included in this report as Appendix C. A brief summary was written for each interview.

Parents

Twelve parents (one father and eleven mothers) of students in occupational education were interviewed by telephone by CIOE research staff. These telephone interviews followed a cue sheet (Appendix D) and lasted approximately ten minutes each. A summary of each interview was prepared. Both program graduates and parents recommended the program and basically corroborated the information previously gathered.

Interviews With New Students

The research of Phase I continued into the fall of 1979. During September, CIOE research staff went to three schools where seniors had already been interviewed and met with students who were new to occupational education programs. A total of thirty-one students (sixteen females and fifteen males) were interviewed. These conversations were built around the cue sheet in Appendix E. The aim of these meetings was to find if entering students' responses differed markedly from the answers given to similar questions by continuing students the previous spring. These new students appeared to be less mature than the continuing students, less well developed in communication skills, and almost completely lacking in job search skills.

Interviews With Parents of New Students

Eight parents of students who were new to programs of occupational education were interviewed over the phone in early fall, 1979. The cue sheet used to guide the interviews is given in Appendix F. The direction of these interviews differed considerably from that of the interviews with parents of continuing students: parents of continuing students were asked about the benefits of their child's occupational program, while these parents were asked about their child's decision to enroll in an occupational program.

From the interviews with parents of new students, two findings were evident. First, most of the parents said that they had not participated very much in their child's decision to attend a program of occupational education; they did, however, tend to support the decision. Second, the most frequently cited benefit of the occupational program (Question 5) was the learning of a job skill. In fact, it was noted by one parent that the job skill could be more worthwhile, in the long run, than post-secondary academic education.

Summary of Interviews

From the interviews with students, graduates, and parents, three points of interest appeared. These are:

- Most students appear to derive similar benefits from occupational education programs.
- There appears to be a shift, due to maturation, occupational education, or other influences, which begins with the new students, progresses in the continuing students, and is most evident in the graduates. This shift is shown by increased verbal abilities, maturity, and ability to clearly express the perceived benefits of the occupational program.
- The students who were interviewed, especially the graduates, showed a social and intellectual maturity that is appropriate for their age.

Hypothesis Development

Based upon the information gathered by the CIOE research staff from interviews and surveys, six major hypotheses were generated regarding the non-technical outcomes of occupational education. The hypotheses are given in Figure 3.

Figure 3

Hypothesized Outcomes of Occupational Education

1. Students in programs of occupational education have more positive attitudes toward school.[1] These attitudes refer to teachers, other students, the value of schooling, and enjoyability of school.

2. Students in programs of occupational education show increased self-confidence. Students' confidence includes both a belief in their own abilities and a feeling that they will know how to handle various situations.

3. Students in programs of occupational education display an increased ability to deal with situations which are stressful to them. Although the situations may still lead to personal irritations or worry, the students are better able to perform under stress.

4. Students in programs of occupational education possess a greater understanding of the social consequences of their actions. This understanding includes an awareness that an individual's behavior affects other people. It also includes acceptance of personal responsibility in two forms: a concern for the safety of self and others, and a concern for the care and custody of tools and materials.

5. Students in programs of occupational education are more capable of establishing trusting relationships with relevant persons. This ability has several parts, including skill in communicating (such as speaking clearly and gaining rapport) and style of communicating (such as speaking directly and holding opinions). In other words, the students are more capable of having relationships with significant adults and peers that are based on mutual respect, trust, and tolerance.

6. Students in programs of occupational education are more able to judge their work by both objective and subjective standards. The students display this ability in their willingness to have their work evaluated by others and to impose personal standards of quality.

7. Students in programs of occupational education have greater skills for making decisions and solving problems, notably regarding employment and career. These skills include knowledge of potential sources for job leads, awareness of how to present oneself in a job interview, and ability to evaluate a job according to one's preferences and needs.

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[1] The comparisons implied in these hypotheses will be of beginning and graduating vocational students, of vocational and home school students, or both. To test the hypotheses, data will need to be gathered from all of those groups. The specific comparisons drawn may not be the same for all hypotheses.

Literature Review

This review has three main sections, each dealing with a major topic aimed at identifying possible non-technical outcomes of occupational education and approaches to measuring them. The questions are: 1) What has been written about the value of work itself? 2) What does past research on the non-academic outcomes of occupational education indicate? 3) What does the literature indicate about the measurement of key concepts that evolved in the pre-pilot hypotheses?

It is apparent from these questions that the field work and the literature review influence each other. The first two questions produced sources which guided the interviews. As the interviews were analyzed, new issues and concepts were discovered. The literature review was then expanded so that these areas could be explored.

The Value of Work

Based on the initial need to identify possible outcomes pertinent to the research task, staff first reviewed the literature concerning the general value of work itself. This included examination of statements made about the value of work to society as well as to the individual.

A point that was stressed repeatedly was that work has a value for both the individual and society that goes far beyond the economic returns generally associated with employment (O'Toole, 1973). This point not only provides a rationale for defining and evaluating work and its training in other than solely economic terms; it also points to specific, desirable psychological and social outcomes which might be investigated. The psychological benefits of work identified included a sense of dignity, self-esteem, identity, or efficacy (O'Toole, 1973), while the social value of work may involve positive attitudes toward society and society's basic institutions, as well as other responsible behavior as a citizen (Wirtz, 1975).

There is some evidence to support these generalizations about the potential benefits of work. Individuals now, more than in the past, seek jobs

for reasons related to personal fulfillment and satisfaction. These criteria are at least as important as economic benefits, as long as the economic benefits are sufficient to maintain a certain standard of living (Yankelovich, 1974).

There is also evidence that employers are now paying less attention in recruitment to technical skills for a particular job (except when the job requires a very high level of technical development). They are concentrating on other skills, such as the abilities to communicate, to get along with others, to cooperate on the job, and to react to expectations. Employers are also becoming more concerned with applicants' attitudes--their attitudes toward work in general and their interest in the particular jobs for which they apply (Lynton, Seldin, Gruhin, 1978). Employers, vocational students, and students' parents generally agree that qualifications of this type are of the greatest importance for survival in the world of work (Nelson and Scanlon, 1977).

Non-technical Outcomes of Occupational Education

The preceding discussion provides a basic understanding of the value of work itself. It does not, however, indicate whether occupational education is producing these affective and attitudinal outcomes that foster occupational adjustment. In light of this concern, staff reviewed the research in occupational education with a special interest in such concepts as self-esteem and self-concept, vocational and psycho-social maturity, and career and consumer awareness.

The search uncovered a limited amount of evidence of direct relevance. Such evidence generally indicates support for the hypotheses generated by the pre-pilot fieldwork.

The most useful sources were evaluations of specific programs of occupational education. Product and process evaluations of three Experience

Based Career Education (EBCE) programs as well as of the Career Development Centered Curriculum (CDCC) and the Occupational and Career Development Program (OCD), for example, clearly suggest the non-academic impact of exemplary occupational education. Using experimental designs for the purpose of comparison and control, these evaluations found that program students improved significantly along such dimensions as: decision making skills, attitudes toward school, self-concept, and achievement motivation (Far West Laboratory, 1976).

In the state of New York, a six year study at the Oswego County BOCES (Board of Cooperative Educational Services) documented that BOCES students are more satisfied with their high school programs and are more likely to judge their programs to be relevant to the world of work than are home-school students (Oswego County BOCES, 1978).

In a study at the Foreman Center in Fairport, New York, 75 percent of 200 randomly sampled students liked their school day better in the year of the survey (1969) than in the previous year (Zimmerman, 1970). Some of this change was attributable to the students being a year older, a grade higher in school, or a year closer to graduation. However, a substantial difference in all of the sampled students' lives was that they were spending half-days in programs of occupational education.

Two other studies which have a more theoretical objective also indicate that occupational education may make a significant positive difference in the non-cognitive development of students (Pugh, 1969; Meredith, 1974). Both pursued one psychological dimension--that of self-concept--by way of standardized measures. The finding that occupational education students seemed to experience more positive self-concept than control students is important here. However, like many other self-concept studies, neither of these studies employs a design capable of fully discriminating among the potentially confounding variables. The results are thus primarily suggestive.

The research cited above does permit the following conclusions:

- Technical or skill training alone is not sufficient for improving social adjustment. Giving disadvantaged students employable skills, for example, may help break certain aspects of the cycle of poverty, but it will not necessarily improve social adjustment (Sharar, 1974).

- Occupational education tends to produce growth in vocational maturity (Handley, 1975).

- Occupational education produces more favorable attitudes toward school and toward positive social interactions within school (Oswego County BOCES, 1978; Far West Laboratory, 1976).

- Occupational education may improve self-concept, but this result seems to depend on how self-concept is measured and defined (Wylie, 1961; Frank, 1979). Whatever the field in which self-concept assessment is carried out, contradictory findings are commonplace. Within occupational education, for example, see Benson, 1973. This reflects the difficulty in measuring such affective outcomes.

The outcomes of occupational education, as identified in the literature, are consistent with the general outlook on attributes important for occupational survival. They also support this study's pre-pilot data on non-cognitive outcomes. However, previous research designs are somewhat limited. There is need for a more objective, well controlled, large sample study. There is also a need to reflect more of the complexity of these outcomes and how they develop. Thus, the purpose and import of the AVEA/CIOE project are confirmed.

Past Conceptualizations of Key Concepts

The question remains, however, as to how outcomes like those discussed above have been conceptualized and measured in the past. The literature on occupational education sheds little light on this concern. The final segment of this review thus consists of brief statements about how the following key pre-pilot concepts have been addressed in the literature at large: self-confidence, ability to handle stress, social consequences of actions, the ability to establish trusting relationships, and career decision making and problem solving skills.

Self-confidence. The construct of self-confidence is related to, but intentionally kept separate from, that of "self-concept" as it exists in literature. The fact that self-concept is often defined in very broad and abstract terms makes the direct adoption of it here inapplicable. An understanding of the current state of research on self-concept, however, can provide a useful reference point for this study.

The literature on this topic is voluminous. The self-concept of an individual has been afforded such research significance because it has been identified as a potential mediator of a person's behavior (Snygg & Combs, 1959). Behavior, it is assumed, is based upon the total effect that all experiences have upon the individual (Purkey, 1968). The self-concept, also formed in part by experience, is seen to mediate the relationship between experience and current behavior. Thus, as one's experience changes along certain dimensions, so may one's self-concept and behavior.

For educators, a knowledge of how this construct works has offered two closely related benefits. First, it has promised a deeper understanding of why certain behaviors occur; and second, it has indicated a means through which behavior can be altered. The prospect of behavior modification, for the purpose of enriching the individual and society, is a highly attractive one. Research into how the self-concept might be measured and improved has, thus, been extensive.

However, the measurement task has proven formidable. There are significant problems with both observational and self-report methods of gathering data. When people report their own feelings and behaviors, either in interviews or on questionnaires, they may try to create a good impression or may not remember accurately. Combs, Soper, and Courson (1963) recommend observational methods - for example, third person observers in the classroom. These methods are not practical on a large scale; the data collection is extremely time-consuming and the training of observers is very costly. Carl Rogers (1951) recommends a clinical self-report technique making use of a subject's responses in therapeutic sessions as the data source. Most self-concept researchers, however, do not have clients nor do they have access to their respondents for prolonged periods of time.

The most commonly used method of studying self-concept is a questionnaire on which the respondent is asked to report his feelings and behavior. The difficulty with this approach is that the data it produces are often inconsistent and inconclusive (Wylie, 1961; Anastasi, 1971). E. H. Wagener, for example, in studying the self-concepts of children, used two different instruments (the Piers-Harris and the Children's Self-Social Constructs) and obtained contradictory results (Wagener, 1975). Her conclusion was that the mere choice of instrument in self-concept research may determine the findings.

To further complicate matters for the present research task, there are only two widely used and accepted scales for assessing self-concept at the secondary level: the Tennessee Self-Concept Scale and The Coopersmith Self-Esteem Inventory. Neither of these has proven sufficiently focused or sensitive to contextual variables to be characterized as reliable. It is not surprising, then, that when asked about an appropriate instrument for measuring self-concept, William Purkey replied,

> Keep in mind that there are no good ways to measure self-concept, so we limp along with fair means, such as paper and pencil tests. But just because self-concept is difficult to measure does not excuse us from trying (Frank, 1979, Appendix A).

Ability to handle stress. The ability to cope with stressful situations is a necessary part of dealing effectively with life's demands and goals. By meeting such challenges, an individual not only reduces the discomfort or tension associated with the stress, but gains in competency as well.

The term "stress," as used in both common language and research has had a number of different meanings. It has been used to refer to such things as the objective properties of an environmental situation (Spielberger, 1972), the subjective interpretation of that situation (Sarason, 1978), and the physiological or psychological responses made in reaction to the situation (Appley & Trumball, 1967).

In the present study, the term stress is used to describe events that students perceive as unsettling or anxiety-producing. The central research question focuses on the students' ability to perform under such circumstances. Effective performance should indicate that the students have a degree of control over their reactions and a means of handling difficult situations. Both of these consequences are important aspects of personal and social adjustment. Students who are able to cope with stress may lessen the anxiety associated with the stressful situation, which may, in turn, lead to increased achievement and a better self-concept (Gaudry & Speilberger, 1971).

Several factors have been thought to influence an individual's ability to tolerate and master stress. Among these are: personal skills and knowledge; strength and pattern of motivation; assessment of possible success or failure; and social factors such as the influence of other individuals (Appley & Trumball, 1967). Recently it has been demonstrated that success in coping with stress can be improved by strengthening certain skills (Sarason, 1978). Such adaptive skills include planning a course of action, waiting patiently, and reducing preoccupying thoughts. School programs that lead to this kind of training should strengthen the students' adaptive coping behavior.

The different theoretical orientations to both the concept of stress and anxiety have led to the use of a variety of research methods. Measures of stress vary from the individual's subjective evaluation of an experience to the

experimenter's objective measurement of the behavioral or physiological changes that occur. Unfortunately, these diverse measures appraise different things, and it has been suggested that some of them are not indicators of stress at all (Tache & Selye, 1978). An additional problem is that, with the exception of life-threatening situations, there are vast individual differences in the response to environmental conditions. Circumstances that may send one person into a debilitating stress state may lead another to improve performance and may not even affect a third person.

There are situational tests which simulate the stress conditions of real life, but the data on their validity are meager. During such an experiment the examinee is placed in a situation closely resembling a lifelike stress condition. Measures of this stress are then made by objective tests and by trained observers. Anastasi (1976) concludes, "The contribution of these tests rarely justifies the time, equipment and highly trained personnel that their administration requires" (p. 596).

An alternative approach to the assessment of students' performance during stress conditions is the use of a self-report instrument. There are a number of self-report anxiety scales which were designed to study either general anxiety, anxiety occurring at the time of test administration, or situation-specific anxiety. An example of an instrument developed to measure the latter is the Test Anxiety Inventory (Spielberger, 1972). Items on this test are based on the assumption that test anxiety is a situationally specific trait related to the testing situation.

The notion of situationally specific traits can be extended to other conditions assumed to cause stress. Using this approach, a pool of items, relevant to the population under study, could be developed to tap students' reactions and ability to perform during a variety of stress situations.

Social concern and the ability to establish trusting relationships. The Phase I hypotheses not only address development in such individual and psychological areas as self-confidence and the ability to handle stress; they also indicate growth in the capacity to interact appropriately with others. The ability to base certain decisions on an understanding of the social consequences of one's actions, as well as the ability to establish trusting relationships with others, are major components of responsible social behavior. Many studies of developmental maturity have included these social skills in some way, most showing that the benefits are not only social but personal (Elkin, 1960; Piaget, 1962; Allport, 1963; Erikson, 1964 and 1968; Rosenberg, 1965; Rogers, 1970). These are skills which affect an individual's capacity to contribute to society. Both the individual and others are potential benefactors.

Measurement of these skills has consisted of both observational and pencil-and-paper instruments which are relevant here. The validity of a number of these tests has been established by conventional methods; however, some appear more useful due to their use of behavioral measures.

Social and interpersonal maturity have been measured by the California Psychological Inventory. The behavior of high scorers has been consistently described by peers and psychologists as dependable, reliable, mature, and capable, while that of low scorers is consistently seen as distractible, impulsive, defensive, temperamental, and intolerant (Gough, 1966). It has also been found that observational ratings of young adolescents on such variables as "social sensitivity" and "social attitude" can be good predictors of their adult scores on a test of awareness of one's impact on others and one's perception of interpersonal cues (Livson & Peskin, 1967).

One recent attempt to measure these particular types of non-academic student growth is the Psycho-social Maturity Inventory (Greenberger & Sorenson, 1974; Greenberger, Josselson, Knerr & Knerr, 1975). The construct of psycho-social maturity is based on an attempt to integrate goals of socialization with goals of personal development. It is, therefore, a concept concerned with the survival and development of both the person and the society.

This instrument is an attitude inventory which consists of nine subscales, a number of which pertain directly to the interpersonal hypotheses of this research. "Communication," "trusting," and "role management" skills, for example, all enter into the capacity to monitor one's own behavior and to interact with others in a manner defined as responsible, according to prevailing social and psychological theory. During the pre-pilot interviews, occupational education students often attributed this type of development to their occupational programs. This indicates that they should score well on similar scales.

Career decision-making and problem-solving skills. There is a current awareness among educators that the development of students' decision-making and problem-solving skills, relative to employment and careers, must be given more attention in the schools. This stance is generally based on the assumption that such skills form a major component of the personal growth required to achieve career satisfaction. Lynton, Seldin, and Gruhin (1978) indicate that for a large number of those who apply for jobs, much job-seeking is either undirected or misdirected. It was also documented that regardless of the general preparation currently given by educational institutions, employers consider it inadequate. Employers believe that an earlier and more thorough education of students to the business world could result in occupational choices beneficial to both the employee and the employer.

More specifically, a skill that emerged as critical, in every sector of the labor market investigated by Lynton, et al, was how to apply for a job. This includes knowledge of how to dress and act and how to fill out a sample application form. Training in the application process, employers stated, must include an understanding of why the job is desired and how hiring decisions are made. Venn (1978) states that employment seeking skills and up-to-date knowledge regarding work, employment, and advancement, are the major criteria for judging the relevance of vocational programs.

It may be added that in a review of recent CETA and Manpower programs, Garth Mangum (1978) concluded that work-related attitudes and

values, self-confidence, and problem solving and interpersonal skills all should have priority over technical occupational skills in preparation for employability. Next to these personal attributes, an understanding of the labor market and job search skills are usually considered the most important determinants of employment success.

There is a widespread need for workers to have job seeking skills. Currently, over 11% of the working force changes jobs annually (Rosenfeld, 1979). For the future, the Department of Labor predicts that the average worker will change jobs ten times between the years 1975 and 2000 (Mitchell, 1977). Thus, the final hypothesis (Figure 3) appears to be timely; as the job market becomes more competitive and as underemployment makes more qualified workers available for jobs at the entry level, graduates entering the job market will be severely limited in their employment opportunities if they cannot find and win jobs.

Problem-solving skills are usually measured with instruments designed to assess whether the objectives of a specific curriculum have been achieved. This has made it difficult to measure these skills in a general way, although the recent distribution of the Career Skills Assessment Program (CSAP) materials (College Entrance Examination Board (CEEB), 1978) and the Career Maturity Inventory (CMI) package (Crites, 1978) have alleviated some of the problem.

The CSAP is designed to combine the assessment of career skills with the evaluation of program effectiveness and guidance for an individual student (CEEB, 1979). It consists of six separate instrument packages which cover a wide range of individual and program variables. The CMI also combines guidance and assessment concerns, addressing the former with an attitude scale and the latter with a test for competence in relevant skill areas.

Neither instrument is adoptable in its entirety for this project, which is concerned primarily with those skills relevant to the career and job choice process (e.g., self-appraisal, goal selection, and compromise skills).

Appropriate segments of the CSAP and CMI, as well as sections of certain other instruments designed for specific curricular evaluations, may prove useful as models for the development of new items which suit the needs and population of this study.

Conclusions from the Literature Review

In conclusion, the available research generally supports the hypothesis that a significant amount of positive social and personal development are found in students who are in programs of occupational education. It also shows that the measurement of such outcomes presents special problems. In order to generalize to the population of secondary level occupational students in New York State, there would have to be a study of a representative sample of those students. Such a study would need a sound logical design and instruments which are relevant and responsive to New York's students.

Based on both the outcomes most commonly reported in the pre-pilot interviews and the review of the literature, a measurement plan appropriate for the present population and range of research questions should include development of a new instrument by both creating items and selecting existing ones. Also included should be supplementary data, both qualitative and quantitative, gathered from a variety of sources. This combination of data allows the research to address a wide range of concerns while maintaining a significant degree of specificity and control. It is difficult, but desirable in large scale social outcome work to move away from the study of global traits (Bar-Tal, 1975). A multi-source approach which is sensitive to the frames of reference of the population under study seems a suitable beginning.

INSTRUMENTS, METHODS, AND ANALYSIS FOR PHASE II

Now that a set of likely outcomes has been identified, the research will turn to the development of instruments for pilot testing in the spring and fall of 1980 and the development of a conceptual design for the analysis. From the literature search, the data collection of Phase I, and the advice of the AVEA Steering Committee, the following outlines for instrumentation, design, and analysis have been proposed.

The data will come from several sources, including written questionnaires, face-to-face interviews, and interviews by telephone. Students will be asked to report their attitudes toward school, their knowledge of career decision-making, and their feelings about themselves. The bulk of the data will come from the pencil-and-paper survey instrument.

The survey will be designed for group administration so that students can complete it in one class period. A variety of item formats will be used, such as rating scale, check-off, fill-in, and forced choice. Instruments which were found in the literature search (Appendix G) may provide ideas or formats for developing new items. On the same survey form, students will be asked for a small amount of information on their background, such as parents' occupations and education, own post-secondary plans, and hours per week spent at a job.

To assure the readability, relevance, and clarity of the survey, staff will do a pre-pilot test of it locally and revise it before having the pilot-test forms printed. Students' informal oral comments on the survey questions will be used to improve the instrument's interest, clarity, and credibility from the respondents' point of view.

A total of about 900 students is planned for the survey, 50 of these in each site coming from occupational and 50 from LEA schools. Since the purpose of this phase is formative, samples of this size will support instrument development. Larger samples will be needed for actual hypothesis testing.

To ensure the greatest comparability of the students in occupational and general education, sampling will be limited to vocational students in the second year of two-year programs and seniors in the LEAs that feed those occupational programs. Students from both types of sites will be chosen at random, except that vocational service areas will be sampled in proportion to their enrollment. With advice of the AVEA Steering Committee random sampling was chosen for two reasons:

- It makes the study much easier to carry out in the schools, since school records will not have to be used; and

- It makes comparisons possible between more of of the possible subsets of LEA and occupational students than if the two samples were matched on a small set of their characteristics.

Random selection also allows the overall comparison of occupational students with LEA students to be made.

Surveys will be administered on-site by CIOE staff. While in the schools, staff will also conduct interviews with students. Two main purposes will be served by the interviews: to get information on how students understand the questions on the pencil-and-paper instrument, and to provide a qualitative picture for interpreting the quantitative survey results. The former purpose is methodological, testing whether the items mean the same thing to students as they do to adults. Qualitatively, students will talk about the experiences and people who shaped their attitudes. These narrative data will give meaning to the averages and correlations of the survey. These interviews will also feed back into revision of survey items and development of new items for Phase III.

In this pilot phase, interviews will be held with as many as 5 occupational students and 5 home school students per site. Sampling is intended to be random. While at the sites, staff will get the names of parents to interview by telephone about their perceptions of their children's secondary programs.

After the pilot test data are gathered, an effort will be made to verify the representativeness of the respondents by comparing their background data with data in the New York State Basic Educational Data System. The background data will have a substantive use as well: to identify subgroups of respondents, such as males and females or college bound and not. These groupings will be used in the data analysis to find factors that are associated with differences in the affective outcomes. The analysis will show how group membership relates to outcomes, and it may allow new hypotheses to be developed for testing in Phase III.

Analysis will move through two stages, one for improving the instruments and one for piloting the analysis of outcomes. Students' responses will first be studied to identify bad items, measure the agreement among items that are supposed to test a single hypothesis, and measure the independence of scales. For the good items a variety of data analysis techniques will be piloted. A multi-method approach has the advantages of (1) assuring that there are back-ups in case the data do not meet the statistical requirements for any one method; (2) cross-validating results obtained through any one method; and (3) giving a more complete view of the results.

In addition to the quantitative analysis of data from the questionnaires, qualitative methods will be needed for analysis of the interviews. Content analysis may provide information for coding the interviews. However, selective presentation of verbal answers will be emphasized to illustrate the meaning of the survey results. Qualitative methods will not be stressed, simply because they are not practical for the large scale data collection and analysis in Phase III.

Anonymity of all responses and respondents will be protected, both in storing and reporting the data. Survey respondents will, however, be asked to put their names on the survey forms. Names are needed to enable possible follow-up studies to be piloted and to pilot possible pre/post designs.

DISSEMINATION

Dissemination efforts during the past year took five forms. First, throughout all aspects of the design, implementation, and evaluation of project activities, appropriate personnel with SED and AVEA (such as members of the AVEA/CIOE Project Steering Committee) have been kept advised of progress and direction of the study. This close cooperation has greatly helped to identify concerns and chart directions for the study.

Second, the project has worked with the ISSOE Steering Committee. This has resulted in a distribution of Phase I and Phase II ideas to many members of the ISSOE network in New York State, including Area Facilitators, Regional Coordinators, ISSOE personnel in SED, and CIOE staff.

Third, through the interviewing sessions at the various occupational high schools, several directors of occupational education have become informed about this project. A number have asked for additional information on project activities and direction.

Fourth, a presentation was made at the NYSOEA (New York State Occupational Education Administrators) Conference, 26 October 1979. A very responsive and supportive audience of approximately forty persons attended this presentation given by the AVEA/CIOE project research staff.

Finally, Volume XIII of Career Commentary was devoted to this project. This issue (Appendix A) contained articles by representatives of the State Education Department, AVEA Project Steering Committee, Cornell faculty, and project staff. Within New York State it was disseminated to the directors of Occupational Education, presidents of two-year colleges, ISSOE Regional Coordinators and Area Facilitators, the State Advisory Council, the State Education Department, the Institute for Research and Development in Occupational Education at CUNY, and members of the faculty in the Education Department at Cornell. Out of state recipients included directors of the State Research Coordinating Units.

In addition to these formal project dissemination efforts, the CIOE director and project staff held numerous informal conversations with a variety of individuals throughout the state. These discussions increased the field's awareness of the study.

RECOMMENDATIONS

The findings of this phase of research on the social benefits of occupational education indicate that current efforts aimed at developing a design to evaluate these outcomes is progressing satisfactorily. At a recent NYSOEA conference a number of occupational educators indicated a willingness to assist in the pilot study and an eagerness to see the results. This and other support from the field encourages the continuation of this project into Phase II and eventually Phase III, statewide assessment. The following recommendations are made:

- Development of an instrument to be used for measuring the hypothesized outcomes of occupational education should be undertaken. This instrument should be evaluated and refined by project staff, authoritative educational measurement personnel, and appropriate SED and AVEA representatives. The instrument should be tested in the classroom and evaluated for difficulty, reliability, usefulness and appeal to students.
- The selection of AVEA zones, occupational sites, and comparison group sites should be carried out as quickly as possible. Meetings should be held with appropriate AVEA personnel and LEA officials to discuss the pilot study and schools' concerns related to Phase II research.
- Pilot testing of the instruments, procedures for gathering data, and methods of analysis should be carried out in preparation for the statewide survey in Phase III.

These steps are intended to produce a sound instrument, a clear conceptual design, and effective procedures for Phase III.

SUMMARY

This report reviews the major activities and findings of Phase I of the AVEA/CIOE study of non-technical outcomes of occupational education. Recommendations are made to the SED and to AVEA for the continuation and support of this research in New York State.

Phase I was the first of three proposed phases. Its main goal was to identify a set of social outcomes of occupational education. To identify these likely outcomes, project staff interviewed new, continuing, and former students of occupational education about the benefits of their occupational courses. Others involved in occupational education - parents, teachers, and directors - also identified changes which they had observed in occupational students. This research resulted in hypotheses about improvement in students' attitudes toward school, self-confidence, ability to handle stress, appreciation of evaluation, ability to form cooperative relationships, awareness of the effect of their behavior on others, and knowledge for making career decisions.

Data collection proceeded together with a review of research on attitudinal measurement and on outcomes of occupational education. In doing this review staff identified a variety of instruments and item formats which may be useful in selecting or developing measures for Phase II of the study. In addition, the review guided the interviewing of students by suggesting variables or experiences to probe.

A research plan for Phase II was outlined emphasizing survey and interview methods. In this phase, the main objectives will be to develop instruments and procedures for gathering data on the hypotheses, pilot testing the instruments, and revising them as needed. Specific recommendations to SED and to AVEA were made to go forward with instrument development, site selection, and on-site pilot testing.

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APPENDICES

Appendix A: Career Commentary, Vol. XIII

Appendix B: Interview Cue Sheet for Currently Enrolled Students

Appendix C: Interview Cue Sheet for Graduates of Occupational Education

Appendix D: Interview Cue Sheet for Parents of Continuing Students

Appendix E: Interview Cue Sheet for New Students

Appendix F: Interview Cue Sheet for Parents of New Students

Appendix G: List of Relevant Instruments

Appendix A

Cornell
Institute
for Occupational
Education Vol. XIII

Occupational Education for a Democratic Society

Professor Kenneth Strike, Cornell University

Two major goals of schools are to help students lead productive and enjoyable lives and to assist them in taking on the duties of a citizen in a democracy. Unfortunately, schools can damage the self-concept of students who do not do well academically. Therefore, it is important to understand how schools affect students' self-concept and to determine what schools might do to enhance students' sense of self-worth. This is especially true of students in occupational programs since many of those students do not meet with exceptional success in traditional academic subjects.

Basic to the idea of self-concept is the understanding that human beings have an inherent value which is, and should be, independent of how well they do in school, or anywhere else for that matter. When Jefferson wrote that all men are created equal, he was saying that people have a value which does not vary with who they are, what they do, or what they can do. People are entitled to respect, both from themselves as well as from others, just because they are people.

There are different notions of self-respect or self-concept. Two are important educational concerns. Jefferson's idea is morally fundamental. It has to do with one's basic worth as a person. This "self-respect" is an awareness of one's basic worth as a human being. It is an individual's sense that no matter how one differs from other people, one is nevertheless as good and worthwhile as they. But we also use a concept that has to do with an individual's self-evaluation concerning the variety of skills, qualities and attributes that people value but which they possess in varying quantities. The attitudes that people form towards themselves on these bases are called "self-esteem." Self-esteem is dependent on one's self-assessment of one's personal qualities and abilities, often in comparison with the qualities and abilities of others.

It is reasonable that a person's self-esteem should be affected by academic achievement. Skill in mathematics, for example, is valuable, and some people are more skilled in mathematics than others. But it is tragic when people allow their self-respect to depend on such things. A person is not less a person because he or she does not enjoy mathematics or is not facile in mathematics. Yet many students seem to feel just that way; if not about mathematics, about some other area or skill or attribute, their physical size, their athletic prowess, their ethnic background. Somewhere they have learned (been taught) that not being as good in mathematics as someone else is the same as not being as valuable a person. The natural reaction is often outrage, withdrawal and rejection of the social system that taught them they were "not worth much."

What can educators do to enhance the self-respect and the self-esteem of their students? Concerning self-respect, perhaps of primary importance is helping students to understand the difference between self-respect and self-esteem. This distinction is better shown than taught. It is shown by making sure that the affection, attention and concern that students receive from educators do not vary according to how well students master what they are taught. It is shown by respecting the rights and the interests and the ideas of students regardless of their academic potential. Students can only learn that their worth does not turn on their academic performance when we ourselves act as though we believe it.

If schools are to enhance the self-esteem of students, they need to provide a reasonable diversity of ways for students to succeed. Occupational programs, along with physical education, music, art and a broad range of other extra-curricular activities, often provide students with ways to demonstrate alternative competencies and thereby the makings of self-esteem. But providing alternative opportunities for success is not enough. Schools need also to teach students a diverse set of values. Becoming a competent carpenter is unlikely to affect a student's self-esteem positively, if carpentry itself has low status or is regarded with contempt.

Our society clearly values educational attainment and the work that depends on it. No doubt it should. A democratic society needs an educated citizenry; and a technological society needs an educated work force. But perhaps we value intellectual endeavors too exclusively or at least in some undesirable ways. That this is the case is suggested by the high correlation between education and occupational status. It is most clearly illustrated by the tendency of some

schools to track students into occupational programs because of a history of academic failure rather than because of a talent or aspiration or the kind of work involved. Why do we feel that not being good at algebra is a qualification for being an automechanic? We should not assume the opposite. Perhaps it is because we believe that "head" work is so much more valuable than "hand" work that one would do the latter only if one could not do the former.

Such a view assumes that manual dexterity, the ability to perform a useful task, or the capacity to be self-reliant, count for little. These qualities seem not to be regarded as sources of status, pride or esteem.

This idea is clearly wrong. One suspects that few people really accept it, at least consciously. Yet such a view is often communicated systematically by much of what schools do. We need to be sensitive to these hidden messages and to act in ways that communicate broader and more adequate value systems. Occupational programs have the potential for enhancing the self-esteem of many students by expanding the ways for students to succeed in school. But that potential may be fully realized only when the entire school system, indeed our society, is able to express an adequately broad set of values.

One final thought: self-respect and self-esteem are not like the ability to play the violin or to repair a toaster—just personal goods that are, on necessity, dispensable. Self-respect is the individual's recognition of his or her basic equality. People who lack self-respect feel that they deserve to be treated less well than others. They may therefore acquiesce in their own exploitation. Moreover, they may not feel fully entitled to their basic rights and, as a consequence, may fail to perform their roles as citizens. People whose self-esteem is threatened by the public institutions in which they find themselves typically react by rejecting those institutions and the values on which they rest. Self-respect and self-esteem are therefore important public goods in that people who lack them may fail in their public duties, reject common social values and incapacitate precisely those institutions essential to a functional democratic society. If self-respect or self-esteem can be enhanced by occupational education, occupational programs will have made a contribution which, over the long run, will far surpass the economic value of the skills acquired in such programs.

Non-Technical Outcomes: What The Literature Reveals

by Dennis Ridley

As a first phase of our project on outcomes of occupational education, CIOE staff studied the research literature to identify what had been discovered about the non-technical effects of occupational education on students (effects such as changes in attitude, interpersonal relationships, and the like).

We started by examining general statements that have been made about the value of work itself: for example, its value to the individual and to society. We then worked through specific research designs and strategies used to illuminate specific sociological and psychological facts of work. The point we found stressed continually is that work involves values for the individual and for society that go far beyond purely economic returns. It would clearly be a mistake to define work in narrow economic terms.

Desirable psychological outcomes which demand more than an economic definition include a sense of dignity, self-esteem and even identity—the sense of "who one is" as a person. The desirable social outcomes of work involve positive attitudes toward society and society's basic institutions, and responsible behavior as a citizen.

Some evidence supports these generalizations. Individuals now, more than in the past, appear to seek jobs for reasons related to personal fulfillment and satisfaction. Such evidence emphasizes that self-fulfillment and satisfaction can be more important than economic benefits as long as the economic benefits are sufficient to maintain a certain standard of living.

There is also evidence that in recruitment, employers now pay less attention to technical skills for a particular job (except when the job requires highly developed technical skills). They are concentrating on other skills, such as the ability to get along well with others and cooperate on the job, the ability to react to expectations, and basic communication skills. Employers are also becoming more concerned with their applicants' attitudes toward work in general and their interest in the particular jobs for which they apply. Employees, vocational students and parents generally agree that these qualifications are of the greatest importance for survival in the world of work.

We looked for evidence in the research literature to support the notion that occupational education is producing desirable affective and attitudinal outcomes. We were especially interested in such specific outcomes as changes in self-concept and self-esteem, vocational maturity and career and consumer awareness.

Our search of the literature revealed little evidence directly relevant to our questions. This, at the very least, indicates to us the clear need for a study on social outcomes. What little hard evidence we did encounter did not, in general, contradict our initial findings, and does support the hypotheses generated from the pre-pilot field work.

A few key points, however, do have "good" research documentation. In New York, for example, a six-year study of the Oswego County BOCES documented that BOCES students are more satisfied than home-school students with their high-school programs and are more likely to judge these programs to be relevant to the world of work. This kind of evidence combined with our pre-pilot data gave us a good basis for generating further hypotheses about the outcomes of occupational education.

One major question is why these positive outcomes occur at all. We found that the literature shed little light on this question, and therefore we look to our larger AVEA outcomes study to fill in these gaps.

Previous research on changes in self-concept and self-esteem, however, does permit us to make the following, more specific conclusions.

- Technical or skill training alone is not sufficient for improving social adjustment. Giving disadvantaged students employable skills, for example, may help break the cycle of poverty but will not necessarily improve social adjustment.
- Occupational education may improve self-concept, but the findings of positive effects on self-concept measures seem to depend to a rather large degree on how self-concept is measured and defined. Whatever the field in which self-concept assessment is done, contradictory findings are commonplace. This reflects the difficulty inherent in measuring self-concept and its complexity. In general, previous research supports the hypothesis that some positive changes in self-concept are due to occupational training.

- Occupational education may improve self-concept, but the findings of positive effects on self-concept measures seem to depend to a rather large degree on how self-concept is measured and defined. This reflects the difficulty inherent in measuring self-concept and its complexity. In general, previous research supports the hypothesis that some positive changes in self-concept may be due to occupational training. It also teaches us that much care is needed in measuring outcomes related to students' self-concepts.

- Occupational education tends to produce growth in attitudes toward vocational maturity.
- Occupational education produces favorable attitudes toward school and positive social interaction in school.

In summary, the outcomes of occupational education as identified in our search are consistent with the general outlook on qualities important to occupational survival. They also support our field-based hunches and pre-pilot data on some of the important outcomes of occupational education. However, research supporting these conclusions leaves much to be desired. There is a need for more objective, well-controlled research using well-validated techniques. There is also a need to reflect complexity more accurately and to understand why these outcomes occur. These are needs which the AVEA Outcomes Study will be trying to fulfill.

Why an "Outcomes Study"?

by John McCormick

Those of us who have been involved in the development of the secondary vocational education delivery system for New York State are proud of what has been accomplished in the past fourteen years. As we all know, fifteen years ago vocational education was available to only a few secondary-school students who happened to live in a major city or metropolitan area. Now, vocational programs are available to every student in the State and over the years thousands of young people have responded by enrolling in a wide variety of offerings representing many vocational areas. If success can be measured by the extent of student participation, then this effort on behalf of vocational education can be judged to have been very successful.

Even with this tremendous growth and student acceptance, vocational education continues to be challenged by forces within our society. So often we are asked to respond to critics who continue to point to youth unemployment statistics and discrepancies between job opportunities and the number of students specifically trained for those jobs as evidence that vocational education is failing.

Vocational education most certainly must be held accountable; but it is a continuing concern that the measures of accountability still focus on job placement and its influence on the labor force.

We are not diminishing the importance of these factors in the evaluation of secondary vocational education. They are important and must be addressed. But we have to ask the question, if vocational education is falling short of its mission, as some critics would have society believe, why are increasing numbers of students enrolling? Students and parents have answered this question in terms of improved self-image, an increase in sense of direction, an increasing maturity and, in general, the development of a more positive attitude toward school. Students express it in terms such as "I like the way I am treated," "I like the environment," "I am treated like a person."

The Outcomes Project was developed because we realized that, if we believe that there are outcomes of vocational education other than technical training, we should learn how to talk about them so they can somehow be quantified and eventually used in program evaluation. Vocational educators need to be able to describe with clarity and surety the many facets of vocational education that affect students. We must not dismiss those beneficial effects of vocational education that are beyond "Employability Skills" simply because they pose problems in measurement and definition. We proposed therefore that a representative group of students and parents be surveyed about their feelings about vocational education and the role it has played in their lives. These findings will subsequently be used to determine how universal these attitudes are and if the process is appropriate for program evaluation.

We contend that consumer expectations and the validation of outcomes relative to those expectations are important components of accountability as vocational educators compete for their rightful share of limited public funds. The findings will also provide the basis for the formation of a more educationally comprehensive core of information which can be communicated to students, parents, other educators and legislative representatives as we construct programs for the future.

Profiles of Occupational Education Students in New York State

by Lorin E. Cooper

BACKGROUND OF THE STUDY

The New York State Research Advisory Committee in determining priority research areas recognized the need to study the characteristics of occupational education students in New York State. This information is clearly needed so that occupational education decision makers might have sound information on which to base decisions. All too often teachers, counselors, program planners and curriculum developers have made decisions based on inadequate information. This has frequently led to stereotyping the occupational education student's achievement potential, aspirations and social character. Although some data are available from the Basic Education Data System (BEDS) and the Occupational Education Reporting System (OERS), additional student data such as achievement information on an individual basis are needed. These data are not available from either BEDS or OERS on an individual student basis. The information provided by the "Profiles of Occupational Education Students" for New York State will present much needed research-based descriptions of these students.

In September of 1978 I was assigned as project director to conduct a study to determine the characteristics of secondary occupational education students in New York State. Presently, most of these "Profile" data have been collected, and some preliminary analysis has been done. These profiles are based on specified variables viewed across a number of strata. Differences and similarities among and between groups of students are shown by the profiles through the use of selected courses of study, educational planning regions, school type, and other variables.

The two purposes addressed by the study are:

1. The identification and description of secondary occupational education students.
2. The organization of data into student profiles by program, by type of delivery system, by region, and on a statewide basis.

PRELIMINARY FINDINGS

It must be stressed that the findings which follow are preliminary and based on an incomplete, though substantial, data collection. No tests for significance have been applied and further analysis could produce different findings than those which are now apparent. It should also be noted that due to significantly different population characteristics New York City was not included in this sample. New York City will be studied separately.

It appears that statewide occupational education students seem to focus more on their occupational education than on their academic education. This datum seems to support one of the findings of Gary Echternacht's study of Distinguishing Characteristics of Vocational Education Students: "typically, vocational students were less alienated from school and focused more on the work world than general students." Gary Echternacht (of Educational Testing Service) used data from the "National Longitudinal Study of the High School Class of 1972" in an effort to identify characteristics that would distinguish students in a vocational program from those in academic and general programs.

The preliminary findings of our "Profiles" study produced data on:

1. Plans after graduation for work or further formal education. The categories used were not mutually exclusive, therefore, there is some overlap in the categories.
2. Combined family income as mean income.
3. Student achievement:
   a. Grades in occupational education
   b. Grades for the same group's academic performance
   c. Performance on the group's standardized achievement tests.

A preliminary assessment indicates that occupational education students perform significantly better in their occupational education courses than in their academic education courses. When this study is complete statistical treatment will allow for more specific analyses of these data.

All cases in the file are anonymous. However, since arbitrary I.D. numbers are attached to each individual file, a significantly large data base exists that can be manipulated on an individual student basis instead of the usual aggregating of data. This means that the data can be subjected to statistical treatment beyond the scope of the present study.

It may be that this study and the CIOE-AVEA Occupational Education "Outcomes Study" will be able to complement each other, particularly in terms of their data bases. While looking at different samples, both studies focus on the educational outcomes of occupational education in New York State. Perhaps these combined data will have utility beyond their separate purposes. In our quest to describe the benefits and purposes of occupational education more clearly, it is time for occupational educators to look at outcomes other than job skill training. Occupational education must not simply aim to provide job entry skills; it has the higher purpose of adequately educating tomorrow's citizens.

AVEA Social Impact Study: Phase I

by Fran Schorr

The goal of Phase I of the Social Impact Study was to identify beneficial outcomes of occupational education other than those directly related to the development of technical skills. It is important to note that this phase was never intended to withstand statistical analysis. Instead, we felt that in order to establish a list of measurable outcomes or hypotheses we first had to question and listen to an informal cross section of the groups of people most closely connected with occupational education. These

groups, which included directors, teachers, students, graduates and parents, were questioned in a variety of ways. Their responses formed the basis of our hypotheses.

Directors of programs were questioned by means of a postal card survey. Of the 50 asked, 49 administrators responded to a request to cite the three most important beneficial outcomes of occupational education that they perceived. Two benefits, the development of self-confidence and the development of good work habits, were listed most often. Thirteen other outcomes were also mentioned, but much less frequently; among these were such benefits as career education, respect for others and the development of a sense of responsibility.

The views of occupational education teachers were assessed by a Delphi Technique. This involved asking a group of 35 teachers to devise cooperatively a list of the benefits of occupational education. After the list was created, the individual teachers ranked the five benefits they felt to be of greatest importance. The highest ranked benefits resulting from this procedure were good attitudes toward work, improved sense of self-esteem, cooperation with others, improved communication skills and job readiness.

Having obtained the opinions of directors and teachers, we were eager to see what the students' perceptions were. We interviewed 122 students currently enrolled in several BOCES centers.

In general, we were greatly impressed by the students' maturity and honesty, and the ease with which they spoke to unfamiliar adults. The interviews were illuminating and contained many dramatic anecdotes. There were instances of complete turnabouts, such as a student who had difficulty speaking to people before entering the program but who now was quite affable. Another student had a record of arrests but claimed that being at the BOCES convinced him to go straight. In addition, there were examples of the enterprising use of job skills. One young woman in the landscape architecture program casually mentioned that she had just finished a three day outside contract for which she had earned $1,000!

These are striking anecdotes, yet most students made similar statements. They like the BOCES programs and felt it was both fun and a privilege to attend. They also said that, in addition to job skills, they were learning how to get along with people and how to be responsible. They often talked about an increase in self-confidence and consistently expressed deep gratitude and respect for their teachers.

After speaking with these continuing students, we were interested in questioning program graduates and parents. We did this by means of ten minute telephone interviews. Both groups highly recommended the program and corroborated information gathered from the student interviews.

Finally, to complete this phase of the Social Impact Study, our research team interviewed groups of new students to see if there were any discernable differences between entering students and students who had been at the vocational centers for at least one year. These new students appeared to be less mature, less well-developed in communication skills and completely lacking in job search skills.

By combining this information with that obtained from other students, directors, teachers, graduates, parents and the literature, we developed seven major hypotheses about vocational education programs.

1. Occupational education programs seem to develop students' positive self-concept.
2. Occupational education programs seem to promote a decrease in students' anxiety levels.
3. Occupational education programs appear to encourage the development of self-critical and self-regulatory skills.
4. Occupational education programs appear to develop students' decision-making and daily living skills, especially with respect to employment and careers.
5. Occupational education programs seem to improve students' ability to establish relationships based on "enlightened trust" with appropriate others.
6. Occupational education programs appear to develop students' understanding for the social consequences of their actions.
7. Occupational education programs seem to provide students with appropriate job search skills.

AVEA Social Impact Study: Phase II

by Robert Frank

Phase II of the AVEA Social Impact Study consists of the pilot testing of instruments, data collection procedures and data analysis techniques in preparation for Phase III, the statewide data collection study, which will occur in 1980 and 1981.

Within the State of New York, there are six AVEA (Association of Vocational Education Administrators) Zones. Within each of these AVEA zones are several occupational education sites (BOCES). For Phase II (the pilot study), between six and nine different occupational education sites will be pilot tested in order to gather data on occupational education students.

While data are being collected from occupational education sites, similar data will be gathered from home-school students. These students will be randomly chosen from the home schools and may include college-bound pupils. They will, however, not be enrolled in a BOCES program. Approximately 450 home school students, from across New York State, will be included in the study. This will not be a control group per se, but will be a carefully selected comparison group.

Sampling of students from occupational education sites will involve a maximum of 50 students per occupational education site. These students will be randomly selected from the BOCES. All will be seniors in two-year programs who are planning to graduate that semester.

The final instrument to be used in the pilot study to measure these beneficial outcomes has not been finalized. However, the research staff at CIOE is

leaning toward a multi-instrument format combining the qualities of paper-and-pencil tests, interviews and systematic observation along with data collection from students' files and records. Whichever instrument is finally used, the data gathering burden on participating agencies will be kept to a minimum.

Data collection instruments will be distributed and collected by regional AVEA representatives. Administration of the instruments should be carried out during the regular school day by the respective occupational education instructors.

A comparable questionnaire will be developed and administered to a sample of parents of student respondents. These "parent questionnaires" will be conducted over the phone by CIOE staff.

The statistical analyses of responses will be performed using techniques appropriate to the data. Multiple regression, correlations, analysis of variance or non-parametric techniques will be employed where and when needed. These analyses will be performed on the Department of Education's mini-processor or Cornell's main frame computer.

The results of Phase II pilot research will not begin to be analyzed until next summer and will not be completed until early next fall. These results, however, will be discussed in appropriate periodicals such as the *Career Commentary* and will be distributed to ISSOE, SED and AVEA members and participants. The results also will be presented at conferences or meetings involving AVEA members.

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Appendix B

Interview Cue Sheet For Currently Enrolled Students

1. How did you come to enter the program?
2. What were your expectations? (What did you hope to get out of it?)
3. Is the program what you hoped it would be?
4. Develop comparisons with home school life.
5. What did you do yesterday in class?
6. Why do you think the teacher had you do it?
7. What were some other things you did yesterday other than those tasks?
8. Did you get to work at your own pace?
9. Consider the positive experience with failure.
10. Can you have fun with/around your teachers?
11. How do teachers here compare with those at the home school?
12. Do you know your teachers' backgrounds?
13. What adults, other than your teachers, do you have contact with here?
14. What do you think the characteristics of a good employee are?
15. What do you think indicates that a person is mature?
16. Have you used what you learned here outside of the program?
17. What would you do if you had to get a job today outside of your trained field?
    Were there any things that you learned at the BOCES that would help you?
18. How do your parents feel about the program?
19. What does this program do best?
20. How could the program be improved?

Appendix C

Interview Cue Sheet for Graduates of Occupational Programs

Hello, my name is _____. I'm a Research Associate from Cornell University and I'm part of a group doing research on vocational education.

(BOCES Counselor) gave me your name as someone who has graduated from the program. I'd like to ask you a few questions about your experience at the BOCES - if that's all right.

1. What program were you in and when did you graduate?
2. Are you now employed in that area?

IF YES TO #2

(Now employed in that area)

A. What was it like to look for your job? (If student has had more than one job, ask what made them change.)

B. Did you learn anything in the BOCES program which helped you look for the job?

C. When you started the job, was it all what you thought it would be? Other than the technical training, is there anything else you learned at the BOCES which helps you on the job?

IF NO TO #2

(Now not employed in that area)

A. Are you looking for a job now? If YES, did you learn anything in the BOCES program which is helping you to look?

If NO, are you using the skills learned at the BOCES at all?

3. What are your friends, those who didn't go to the BOCES, doing now?

   How would you compare what you're doing with what they're doing?

4. What was the best thing you got out of the BOCES program?

Appendix D

Interview Cue Sheet For Parents Of Continuing Students

Introduction:

Hello, my name is _____. I'm a Research Assistant from Cornell University and I'm part of a group doing research on vocational education. (BOCES Counselor) _____ gave me your name as a parent of a student who has attended a BOCES program. I'd like to ask you a few questions about your child's experience there - if that's all right.

1. Do you feel that the BOCES program has been responsible for any changes in (child's name) _____ attitude? (How? Could you elaborate on that?)

2. (Optional) Do you think that the BOCES program has made a difference in the way (child's name) _____ gets along with people such as employers, relatives or friends? How?

3. What if a younger student came to you and asked your advice about going into a BOCES program? What kinds of things would you tell him/her?

4. Have you ever had any complaints about the BOCES program?

5. What is the best thing that (child's name) _____ has gotten out of the BOCES program?

Appendix E

Interview Cue Sheet For New Students

1. What program are you in? First choice?
2. How did you hear about BOCES program? Siblings, counselors, teachers, parents.
3. What do you hope to get out of BOCES experience?
   Why do you think you can get it here?
   Why do you think you can't get it at home school?
4. Will you be missing anything by coming here (social life, college, extra-curricular activities)?
5. What is it like at home school? (Failure, extracurricular activities, discipline, cutting, competition).
6. Did you consider dropping out of school? What would you have done?
7. If you had to find a full-time job right now, how would you go about it?
8. What have you heard about what it's like at BOCES? (Pacing, vandalism, teacher-pupil characteristics, difficulty of work).
9. What do others think of BOCES students?
10. Consider differences between students who chose to come here and those who didn't.
11. What are the characteristics of a good employee?
12. Do you think you'll be able to find a job in your area after BOCES training?
    If not, will BOCES be a waste of time?
13. Home school/BOCES comparisons (teachers, facilities, fun).
14. Major expenditure decision.
15. What's the most important thing you can learn in school?

Appendix F

Interview Cue Sheet For Parents Of New Students

1. How did your child decide to enter the BOCES program?

2. What part did you play in the decision?

3. How do you feel about the decision?

4. What has your child's experience been like at the home school?

5. What do you hope your child will get out of the BOCES program?

Appendix G

List of Relevant Instruments

Self-Concept

Tennessee Self-Concept Scale

Self-Perception Inventory

Locus of Control

Rotter's Internal-External Control Scale

Personal Responsibility/Social Consequences of Actions

Ego-Ideal and Conscience Development Test

Personal Values Abstract

California Test of Personality

Comrey Personality Scales

Jesness Behavior Checklist

Gordon Personal Profile

Survey of Interpersonal Values

Achievement Motivation/Aspiration

Thematic Apperception Test

SCAMIN (Self-Concept and Motivation Inventory)

Anxiety

State-Trait Anxiety Inventory

Taylor Manifest Anxiety Scale

Zipers

Decision Making Skills

The Affective Involvement Instrument

Problem Solving Skills

Seeing Problems

General Attitudes

Survey of Personal Values

Personality Research Form

QUESTA

Rokeach Values Survey

Survey of Interpersonal Values

Interpersonal Competence

Psychosocial Maturity Inventory

Survey of Interpersonal Values

Interpersonal Communication Inventory

Ability to Establish Relationships Based on Enlightened Trust

Psychosocial Maturity Inventory

Communication Skills

Interpersonal Communication Inventory

Psychosocial Maturity Inventory

Leadership

Survey of Interpersonal Values

Self-Control/Impulsivity

Personality Research Form

Offer Self-Image Questionnaire for Adolescents

California Psychological Inventory

Jesness Behavior Checklist

Self-Fulfillment/Self-Actualization

Personal Orientation Inventory

Self-Perception Inventory

Sources of Competition

Psychosocial Maturity Inventory

Self-Concept and Motivation Inventory

Attitudes Toward Authority

Youth Opinion Questionnaire

Reid Report Conservatism Scale

Self-Reliance

Psychosocial Maturity Inventory

California Test of Personality

Personal Orientation Inventory

QUESTA

Survey of Interpersonal Values

Job Search Skills

Career Skills Assessment Program

Assessment of Career Development

Attitude Toward Work

Youth Opinion Questionnaire